B.Tech. DEGREE EXAMINATION, NOVEMBER 2017
Third/ Fourth/ Fifth Semester

15IT311 – SYSTEM INTEGRATION AND ARCHITECTURE
(For the candidates admitted during the academic year 2015 – 2016 onwards)

Note:
(i) **Part - A** should be answered in OMR sheet within first 45 minutes and OMR sheet should be handed over to hall invigilator at the end of 45th minute.
(ii) **Part - B** and **Part - C** should be answered in answer booklet.

Time: Three Hours

Max. Marks: 100

PART – A (20 × 1 = 20 Marks)
Answer ALL Questions

1. Software consists of
   (A) Set of instructions + operating procedures
   (B) Programs + documentation + operating procedures
   (C) Programs + hardware manuals
   (D) Set of programs

2. Which is not available in software life cycle?
   (A) Coding
   (B) Testing
   (C) Maintenance
   (D) Abstraction

3. The most important feature of spiral model is
   (A) Requirement analysis
   (B) Risk management
   (C) Quality management
   (D) Configuration management

4. IEEE 830-1993 is a IEEE recommended standard for
   (A) Software requirement specification
   (B) Software design
   (C) Software analysis
   (D) Testing

5. SRS is also known as specification of
   (A) White box testing
   (B) Stress testing
   (C) Integrated testing
   (D) Black box testing

6. The model in which the requirement are implemented by category is
   (A) Evolutionary development model
   (B) Waterfall model
   (C) Prototyping
   (D) Iterative enhancement model

7. A COCOMO model is
   (A) Common Cost Estimation Model
   (B) Constructive Cost Estimation Model
   (C) Complete Cost Estimation Model
   (D) Comprehensive Cost Estimation Model

8. The desired level of coupling is
   (A) No coupling
   (B) Control coupling
   (C) Common coupling
   (D) Data coupling

9. Coupling and cohesion can be represented using a
   (A) Cause-effect graph
   (B) Dependency matrix
   (C) Structure chart
   (D) SRS

10. Each time a defect gets detected and fixed, the reliability of a software product
    (A) Increases
    (B) Decreases
    (C) Remains constant
    (D) Cannot say anything

11. Alpha and beta testing are forms of
    (A) Acceptance testing
    (B) Integration testing
    (C) System testing
    (D) Unit testing

12. ER model shows the
    (A) Static view
    (B) Functional view
    (C) Dynamic view
    (D) Logical view

13. The problem that threatens the success of a project but which has not yet happened is a
    (A) Bug
    (B) Error
    (C) Risk
    (D) Failure

14. The testing that focuses on the variables is called
    (A) Black box testing
    (B) White box testing
    (C) Data variable testing
    (D) Data flow testing

15. Effective software project management focusses on
    (A) People, performance, payoff, product
    (B) People, product performance, process
    (C) People, product, process, project
    (D) People, process, payoff, product

16. Which of the following is not considered as stakeholder in the process?
    (A) Customers
    (B) End-user
    (C) Project managers
    (D) Sales people

17. How does a software project manager need to act to minimize the risk of software failure?
    (A) Double the project team size
    (B) Request a large budget
    (C) Start on the right foot
    (D) Track progress

18. _____ also known as straight through processing, is the integration of applications where there is not only communication and management of these request across applications.
    (A) Data consistency integration
    (B) Multistep process integration
    (C) Plug and play integration
    (D) Data integration

19. _____ is integration through the code of an application where the purpose is to access or update data
    (A) Plug and play
    (B) Multistep process integration
    (C) Data consistency integration
    (D) Data integration

20. Distributed processing middleware is a type of software that facilitates the communication of requests between software components through the use of defined _____.
    (A) Components
    (B) Infrastructure
    (C) Middleware
    (D) Interfaces

21. Define software engineering.

22. List out the advantages and disadvantages of agile process.

23. Differentiate functional and nonfunctional requirements using example.

24. Mention the advantages of modular design.

25. What is a middleware, mention any two examples.

26. Explain the project plan.

27. List the horizontal and vertical layer of service oriented architecture.

PART – C (5 × 12 = 60 Marks)
Answer ALL Questions

28. a. Explain the software development life cycle model. List the advantages and disadvantages of this model.

(OR)

   b.i. Provide three examples of software projects that would be amenable to the prototyping model. (8 Marks)

   ii. Are the unified process and UML the same thing? Explain your answer. (4 Marks)

29. a. Using an example explain software requirements specification template.

(OR)

   b.i. Differentiate CSPEC and PSPEC?

   ii. How to convert an requirements model into a design model? Draw the diagram.

30. a.i. Explain the different styles of architecture. (8 Marks)

   ii. Differentiate coupling and cohesion. (4 Marks)

(OR)

   b.i. Differentiate white box and black box testing.

   ii. Differentiate boundary value analysis and equivalence partioning.

31. a. Explain the different project management activities. Differentiate milestones and deliverables.

(OR)

   b. How do you measure software? Explain the different ways of measuring softwares with formula.

32. a. What is an integration model? Explain the different types of integration models.

(OR)

b.i. Write a brief note about middleware. Compare data access middleware and message oriented middleware. (8 Marks)

ii. What is an interface? Explain the different types of interfaces. (4 Marks)

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